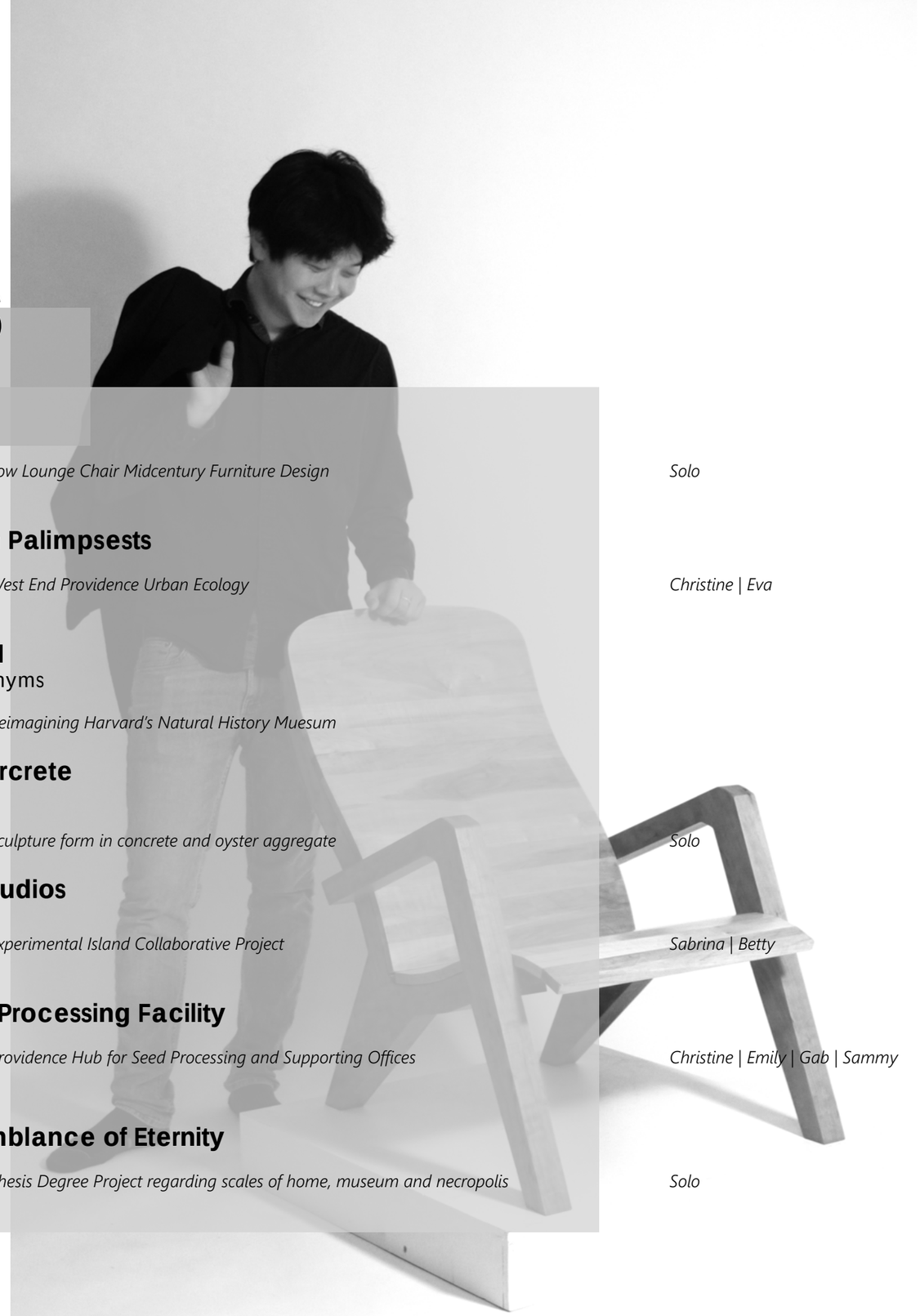
YUCHENG CHE

Architecture & Design Portfolio

Projects



LY014

Low Lounge Chair Midcentury Furniture Design — *Solo* — *...4*

Urban Palimpsests

West End Providence Urban Ecology — *Christine | Eva* — *...6*

HMNH
Biorhythyms

Reimagining Harvard's Natural History Muesum — *...14*

Oystercrete
Pixel

Sculpture form in concrete and oyster aggregate — *Solo* — *...22*

SYB Studios

Experimental Island Collaborative Project — *Sabrina | Betty* — *...24*

Seed Processing Facility

Providence Hub for Seed Processing and Supporting Offices — *Christine | Emily | Gab | Sammy* — *...26*

A Semblance of Eternity

Thesis Degree Project regarding scales of home, museum and necropolis — *Solo* — *...40*

LY014

The LY014 is a Mid-century Modern inspired lounge chair made of Cherry and Maple solid wood, finished in Osmo and Shellac. It was shown in the Bayard Ewing Gallery from April 1st 2024- April 8th 2024. Oftentimes in the Architecture pedagogy, our ideas stay in the drafting phase and smaller scale study models. With this chair, I wanted to emphasize the depth and richness of the solid wood, hard to the touch, soft in experience. Completed entirely in-house.

(January 2024- February 2024)

Urban Palimpsests

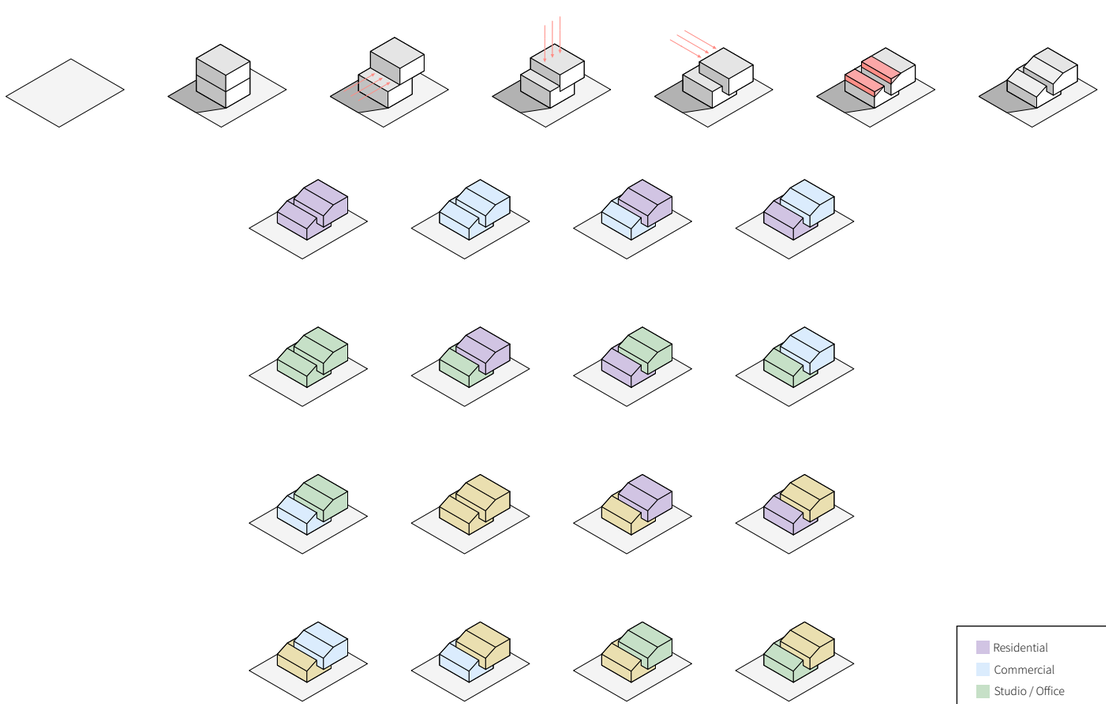
The Urban Palimpsests project was a study of the feasibility of rethinking and reimagining turnovers in the community of the West End in Providence. The project seeks to highlight the opportunities that spaces offer both in the infill typology and reflected in the rowhouse typology.

This project takes on 3 phases:
1 Infill housing
2 Street redistribution of micromobility
3 Formation of staggered rowhouse community

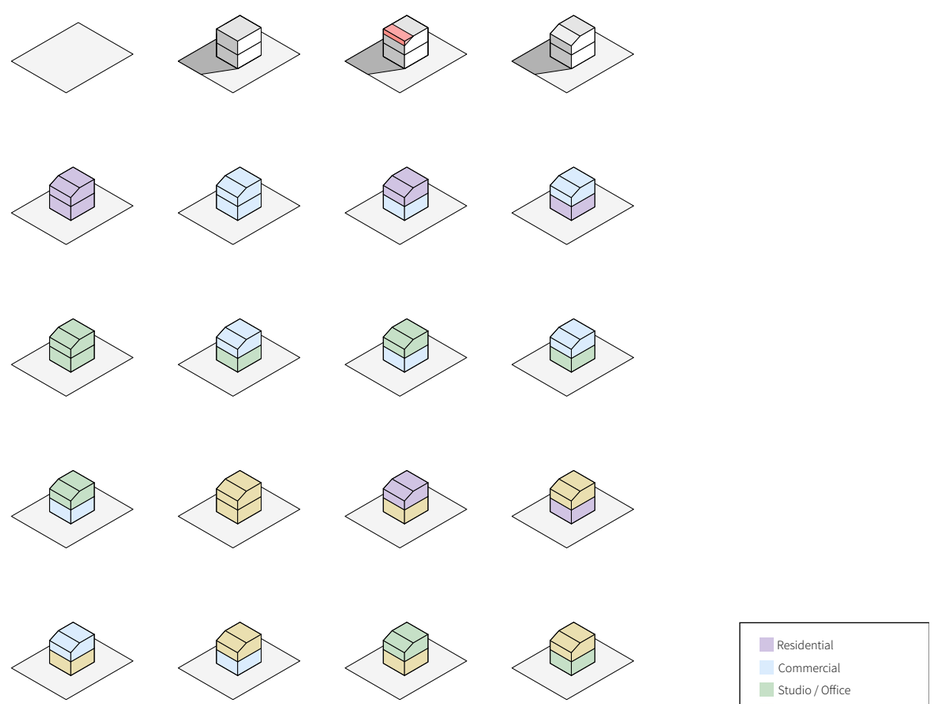
(October 2022-December 2022)

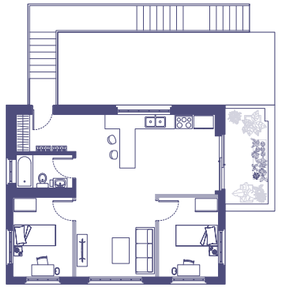
Row House Axonometric
Digital Render
36"x48"

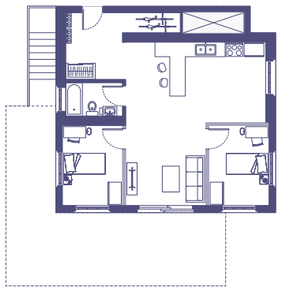
Double Unit
Formal Typology



Single Unit
Formal Typology

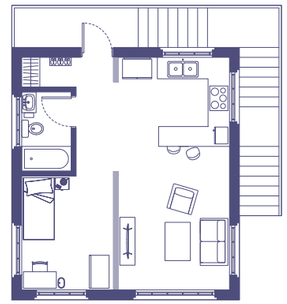


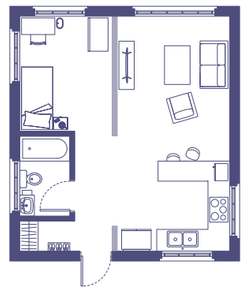




Double Units

The Double Unit accomodates comfortable living for 2-4 persons sharing a joint kitchen, living room, bathroom, and patio. These units serve as spaces of not only living, but experiencing life: from the familiar scratches on coffee tabletops to the residual warmth of the winter sun after a long day's work.

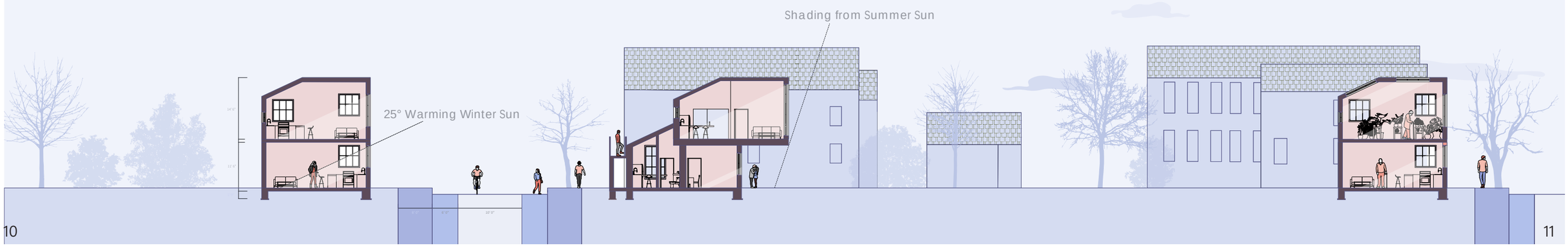




Single Unit

The Single Unit is a compact and straightforward infill type. These units serve to house 1-2 persons per floor and like the double unit, provides significant access to south-facing light, reducing heating loads and receiving warm natural light throughout the day in winter months.

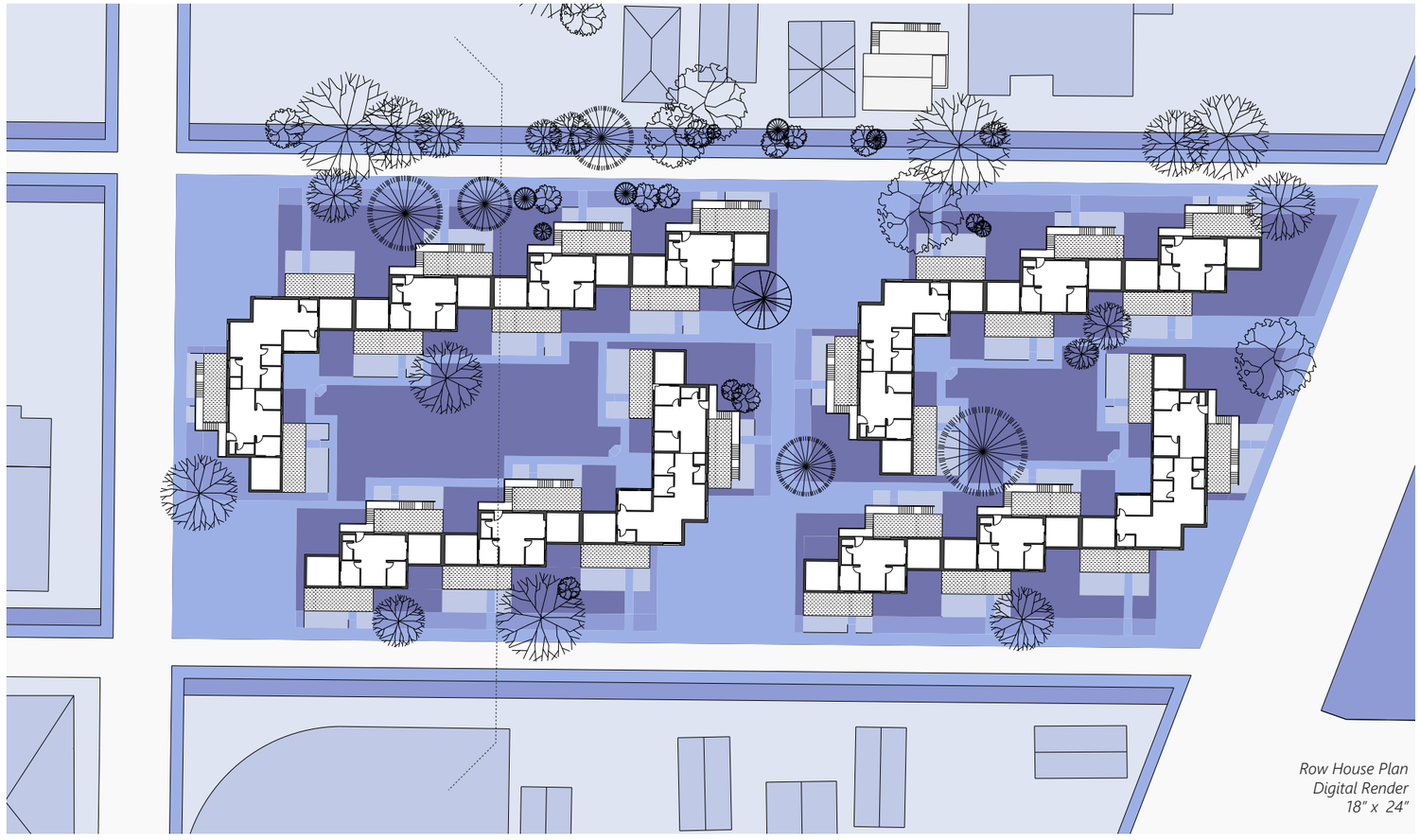
Street Plan/Elevation
Digital Render
15" x 36"



Row House Community

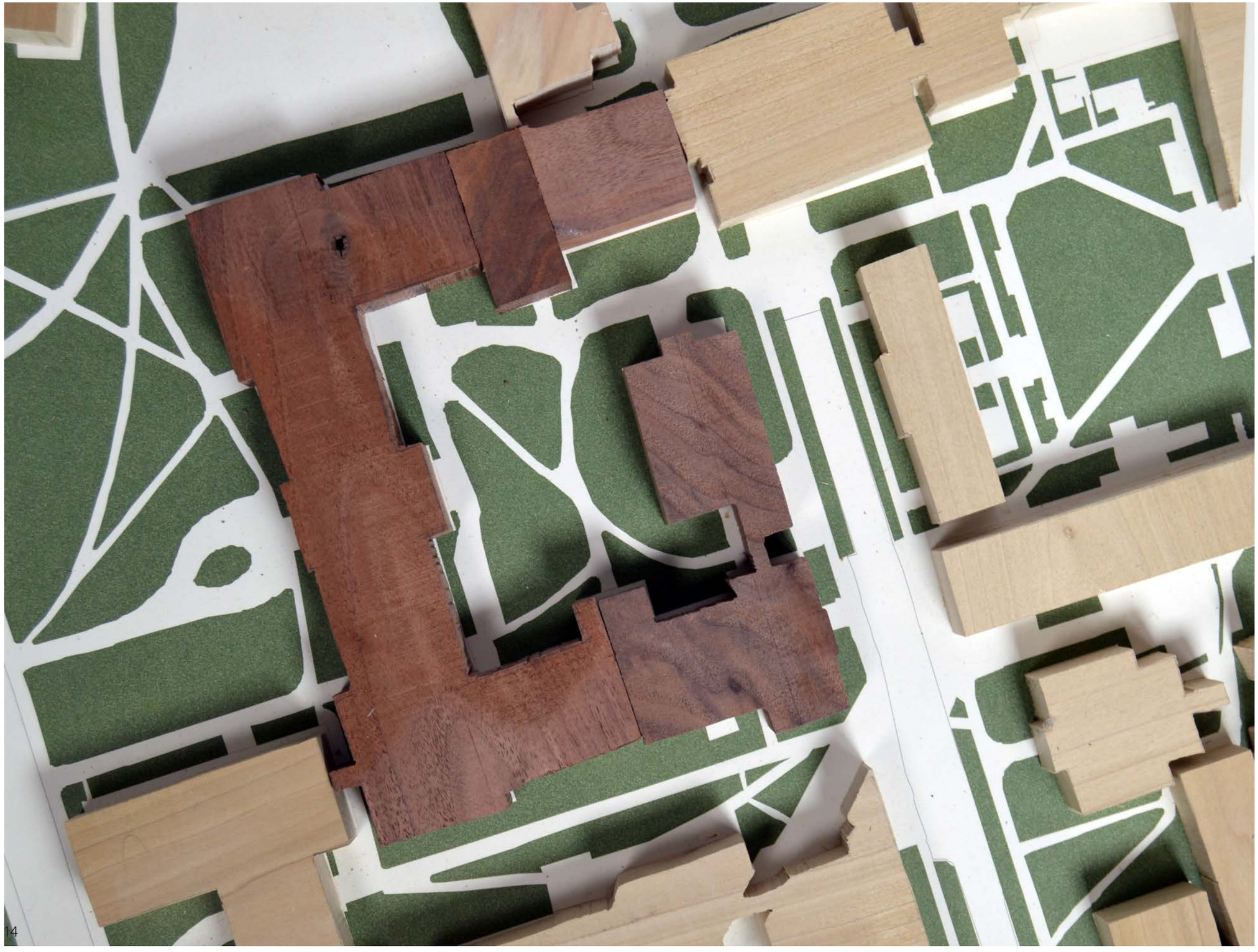
The Row House Community is the major component of phase 3. In this phase, the double unit is adapted for a denser and increasingly integrated imagined living scenario. Each unit has access to an outdoor green and property lines are subtly indicated through minor elevation differences in the masonry.

The paths that are articulated also anticipate a certain level of change to the mobility in this neighborhood. With the trend of smaller neighborhood streets shifting away from larger cars and focused more on bicycles and public micromobility systems.



Row House Plan
Digital Render
18" x 24"

Section Perspective
Digital Render
15" x 24"



HMNH

Biorhythms

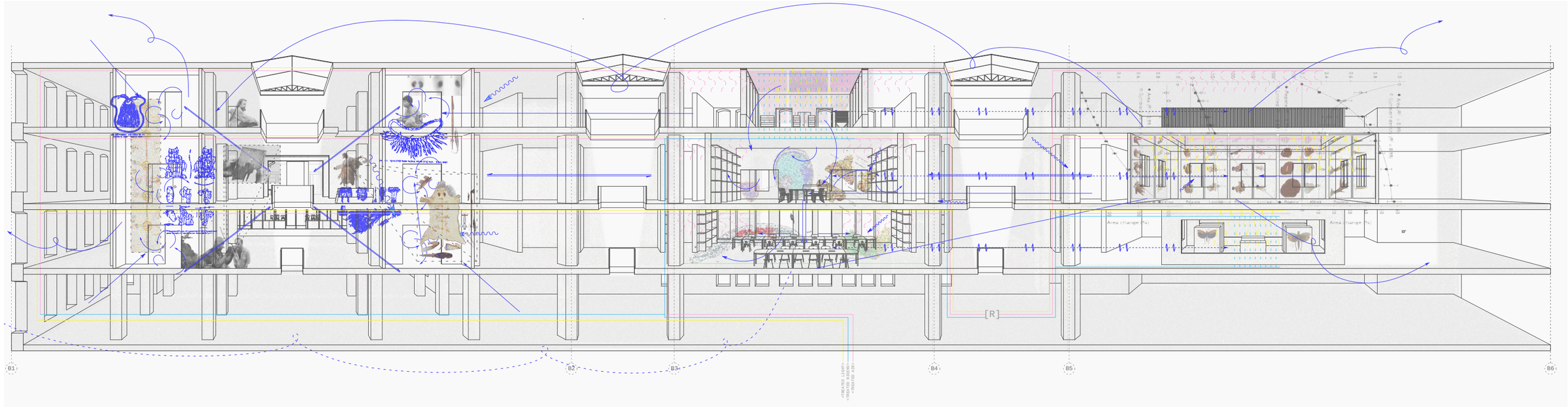
The interior retrofitting of the Harvard Museum of Natural History was a project with the intention of highlighting the building and its systems as a collaborative between the living and the preserved. Its primary objective is opening up the space to be more accessible to the wider public as well as integrating more contemporary zoological research facilities into the building.

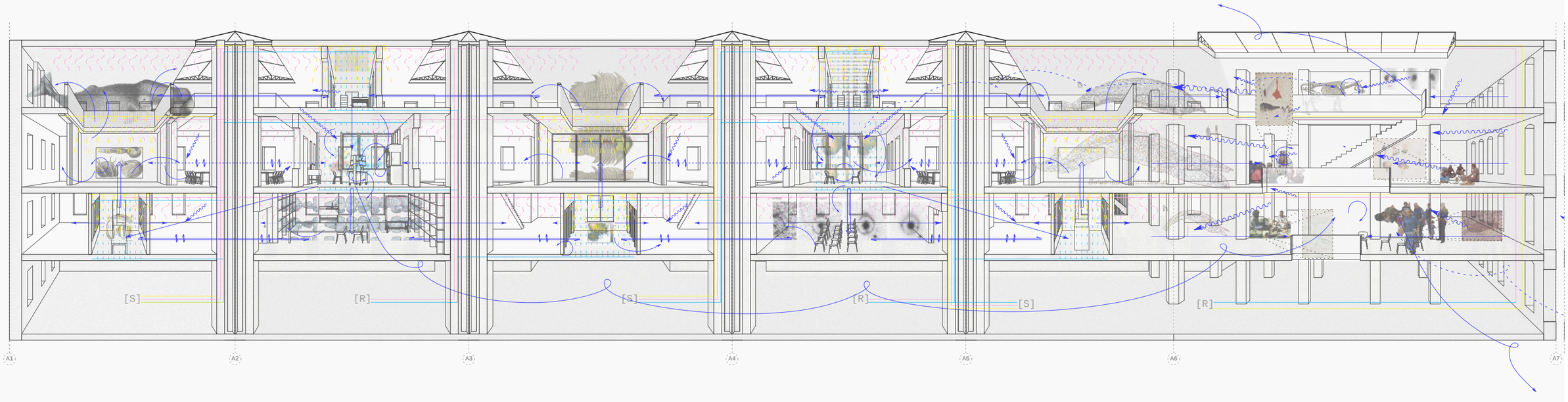
(October 2023-December 2023)

Site Model
Solid Walnut and Maple
24” x 24”

3rd Floor Conceptual Plan
Digital Drawing
24" x 36"

4th Floor Conceptual Plan
Digital Drawing
24" x 36"





Section Perspective
Digital Drawing
15" x 60"

Oystercrete

PIXEL

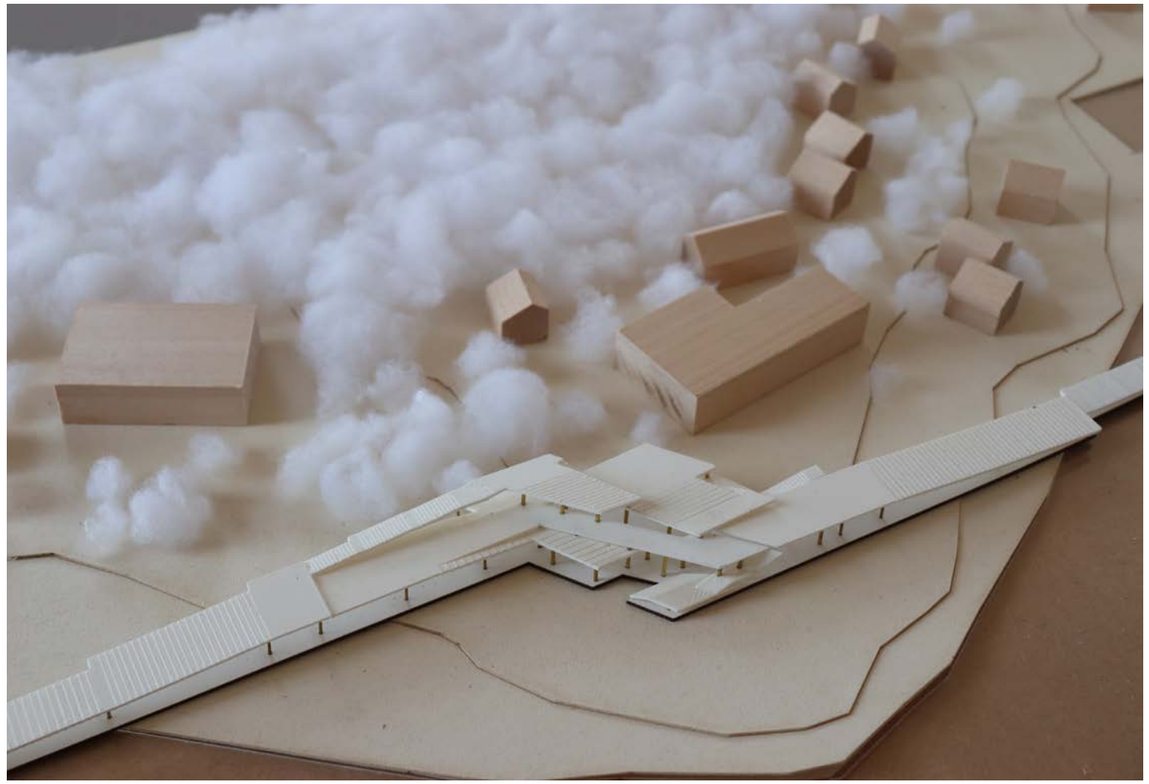
PIXEL was the result of an exploration working with Evan Farley for his advanced studio course in the Spring of 2023 titled The World Is Your Oyster.

This provocation later grew into an oyster shell processing facility and the adjacent concrete mill. Utilizing available local materials, this sculpture highlights the cycles of industrialization and the tectonic implications of a new modular dry stackable brick system.

This column was on display in the Bayward Ewing Gallery from March 13th - March 19th.

(February 2023 - May 2023)

Full Scale Column
Concrete [oyster shell aggregate]
1:1



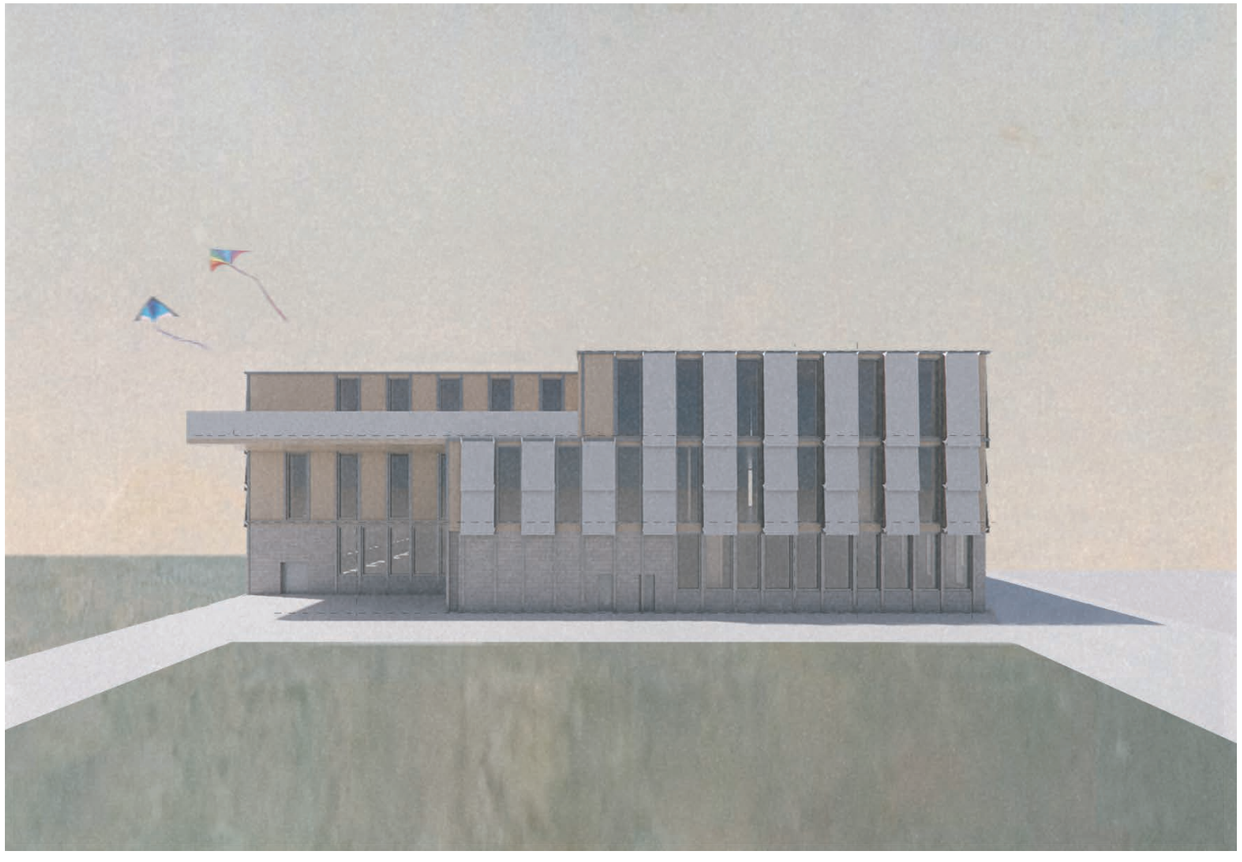
SYB Studios

Sabrina Eisenberg, Betty (Pui Ki) Ng, Yucheng Che

SYB Studios (Sabrina Yucheng Betty) was a theoretical collaborative studio that explored the intricacies of designing a firm. We anchored our studio on the border between the United States and Canada on an Island known as Navy Island just North of Niagara Falls. Our firm sought connections on both sides of the border to bring together a design ecology that integrated an ethic of production and physicality. SYB Studios then went on to design an opening exhibition that took over a room on the third floor of the BEB in June of 2024.

(March 2024- June 2024)

HUB 59
408-406 South Main Street, Providence, Rhode Island 02903



GENERAL

G-001 Cover Sheet
G-101 Zoning / Planning Review
G-201 Psychrometric Charts
G-202 Wind Analysis
G-203 Solar Radiation Analysis
G-204 UTCI Conditions
G-205 Solar Studies
G-301 Circulation Diagram

LANDSCAPE

L-101 Site Plan
L-102 Parking and Access Plan

ARCHITECTURAL

A-101 First Floor Plan
A-102 Second Floor Plan
A-103 Third Floor Plan
A-104 Roof Plan: Solar Panels
A-105 Photovoltaic Array
A-106 Solar Electric System Details
A-107 First Floor Safety Plan
A-108 Second Floor Safety Plan
A-109 Third Floor Safety Plan
A-201 North Elevation
A-202 East Elevation
A-203 South Elevation
A-204 West Elevation
A-301 Building Transverse Section
A-302 Building Cross Section
A-401 Ground to Roof Wall Sections
A-501 Exploded Axonometric
A-502 Corner Axonometric
A-503 Floor to Ceiling Worms-Eye Axonometric
A-504 Balcony Axonometric
A-505 Panel System: Foundation Tectonic
A-506 Panel System: Wall Tectonic
A-507 Panel System: Roof Tectonic
A-508 Window Opening: Foundation Tectonic
A-509 Window Opening: Wall Tectonic
A-510 Window Opening: Roof Tectonic

ARCHITECTURAL (Continued)

A-601 Core Details
A-602 Stair Details
A-701 Tectonic Model of Bay
A-702 Wall Assembly: Option 1
A-703 Wall Assembly: Option 2
A-704 Wall Assembly: Option 3
A-705 Wall Assembly: Option 4
A-706 Wall Assembly: Option 5
A-707 Wall Assembly: Option 6
A-708 Wall Assembly
A-709 Charcoal Section Detail

STRUCTURAL

S-001 Structural 3-D Diagram
S-002 Structural Bay Diagram
S-100 Foundation Structural Plan
S-101 First Floor Structural Plan
S-102 Second Floor Structural Plan
S-103 Third Floor Structural Plan
S-104 Roof Structural Plan

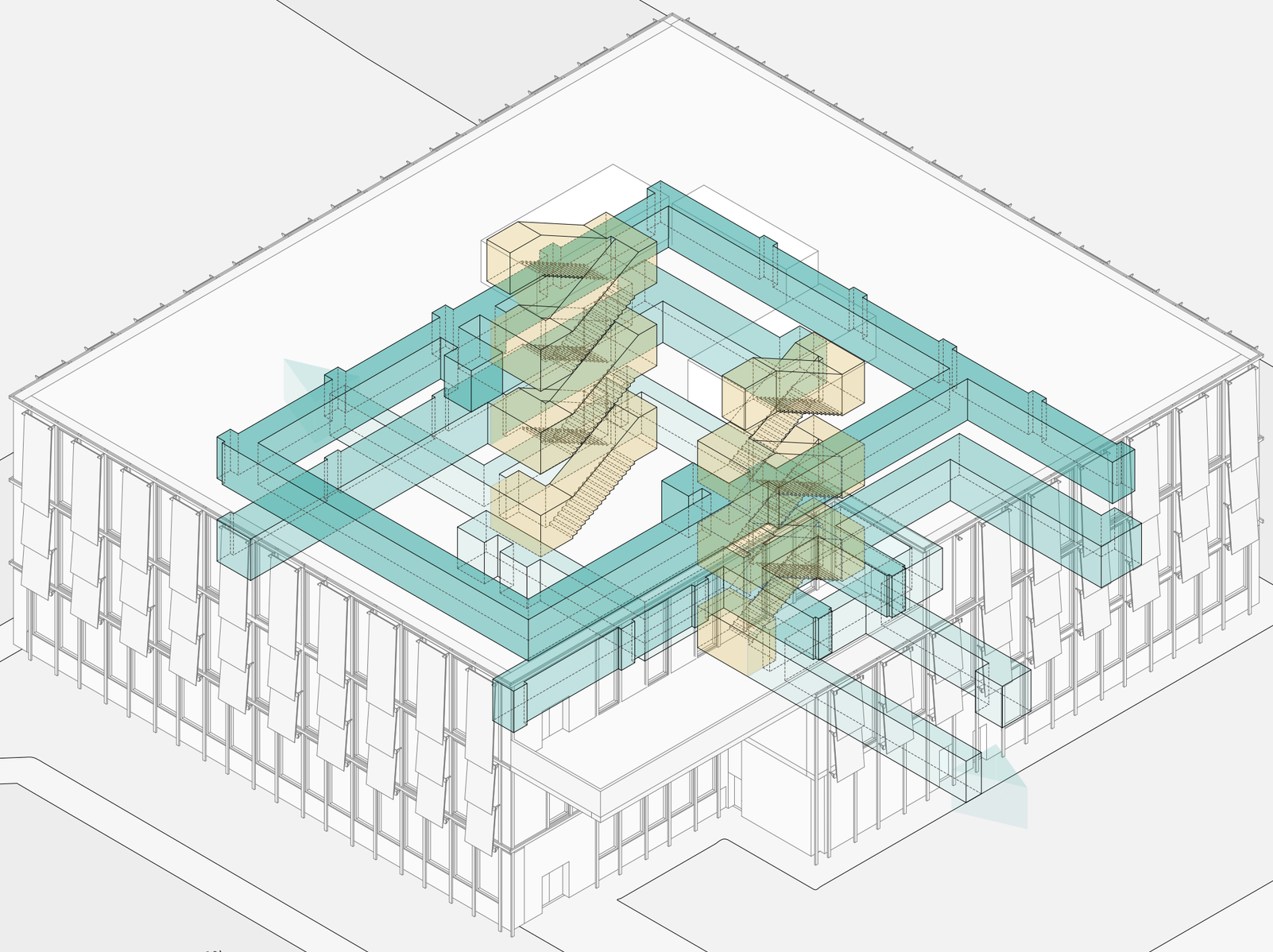
MECHANICAL

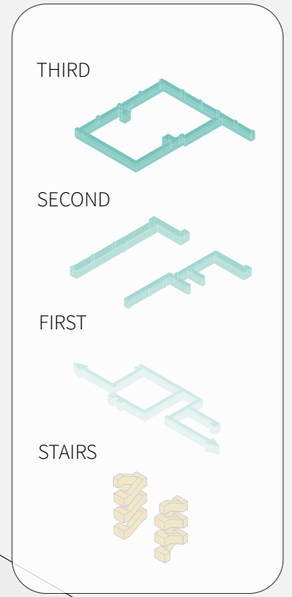
M-001 Mechanical 3-D Riser Diagram
M-101 First Floor VRF System
M-102 Second Floor VRF System
M-103 Third Floor VRF System
M-201 First Floor ERV System
M-202 Second Floor ERV System
M-203 Third Floor ERV System

DWG: G-001
DATE: 9/13/2024
SCALE: N/A
DRWN BY: N/A
REVISION:
DRWING: COVER SHEET
PROJECT: HUB 59
408-406 SOUTH MAIN STREET,
PROVIDENCE, RHODE ISLAND 02903

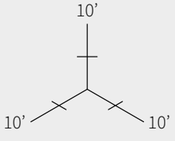
Architect:
BUD & BLOSSOM
Samantha Salazar
Emily Lo
Yuxuan (Gab) Chen
Yucheng Che
Christine Baek

CIRCULATION DIAGRAM





G-301 CIRCULATION DIAGRAM
EGRESS ISOMETRIC 1:200



DWG: G-301

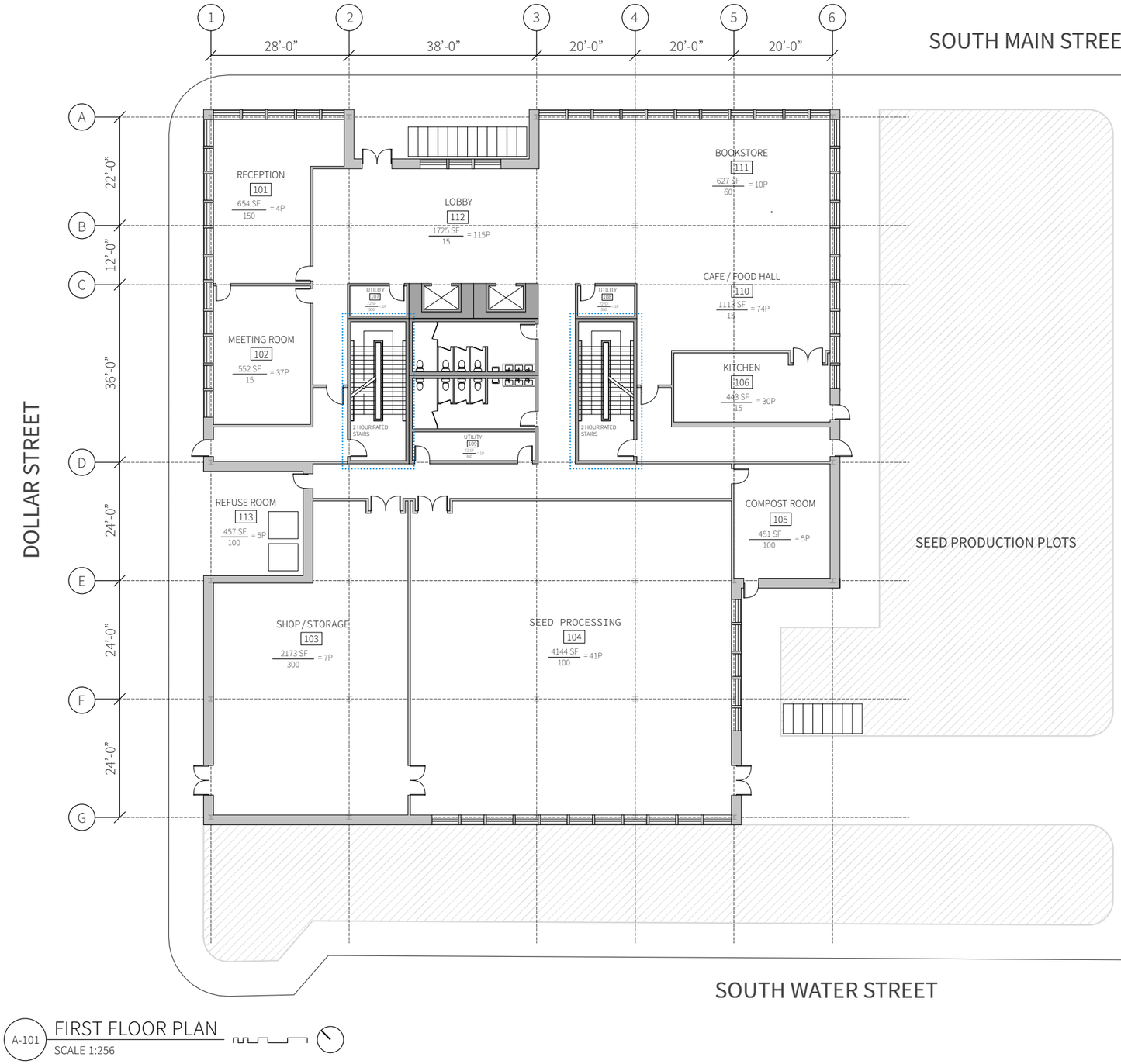
DATE: 9/20/2024
SCALE: N/A
DRWN BY: Yuxuan (Gab) Chen

REVISION: 9/25/2024 Yuxuan (Gab) Chen
REVISION: 10/24/2024 Yucheng Che
REVISION: 11/22/2024 Yucheng Che

DRWING: CIRCULATION DIAGRAM

PROJECT:
HUB 59
408-406 SOUTH MAIN STREET,
PROVIDENCE, RHODE ISLAND 02903

Architect:
BUD & BLOSSOM
Samantha Salazar
Emily Lo
Yuxuan (Gab) Chen
Yucheng Che
Christine Baek



A-101 FIRST FLOOR PLAN
SCALE 1:256

OCCUPANT LOAD CALCULATIONS

ROOM #	PROGRAM	FUNCTION	AREA	OCCUPANT LOAD FACTOR	OCCUPANT LOAD
101	RECEPTION	BUSINESS	654	150	4
104	SEED PROCESSING	INDUSTRIAL	4144	100	41
106	COMPOST ROOM	INDUSTRIAL	451	100	5
113	REFUSE ROOM	INDUSTRIAL	457	100	5
111	BOOKSTORE	MERCANTILE	627	60	10
103	SHOP / STORAGE	STORAGE, STOCK, SHIPPING AREAS	2173	300	7
102	MEETING ROOM	UNCONCENTRATED (TABLES & CHAIRS)	552	15	37
106	KITCHEN	UNCONCENTRATED (TABLES & CHAIRS)	443	15	30
112	LOBBY	UNCONCENTRATED (TABLES & CHAIRS)	1725	15	115
110	CAFE / FOOD HALL	UNCONCENTRATED (TABLES & CHAIRS)	1113	15	74
107	UTILITY ROOM 1	UTILITY & MISCELLANEOUS	70	300	1
108	UTILITY ROOM 2	UTILITY & MISCELLANEOUS	70	300	1
109	UTILITY ROOM 3	UTILITY & MISCELLANEOUS	144	300	1

PLUMBING FIXTURE CALCULATION

OCCUPANCY	LOAD/2	WC MALE	WC FEMALE	LAVATORY MALE	LAVATORY FEMALE	FOUNTAIN	SERVICE SINK
B	2	0.08	0.08	0.05	0.05	0.02	/
A-3	132	1.056	2.03	0.66	0.66	0.264	/
F-1	20.5	0.205	0.205	0.205	0.205	0.05125	/
S-1	3.5	0.035	0.035	0.035	0.035	0.0035	/
M	6.5	0.013	0.013	0.009	0.009	0.0065	/
TOTAL		1.389 = 2	2.363 = 3	0.959 = 1	0.959 = 1	0.34525 = 1	1

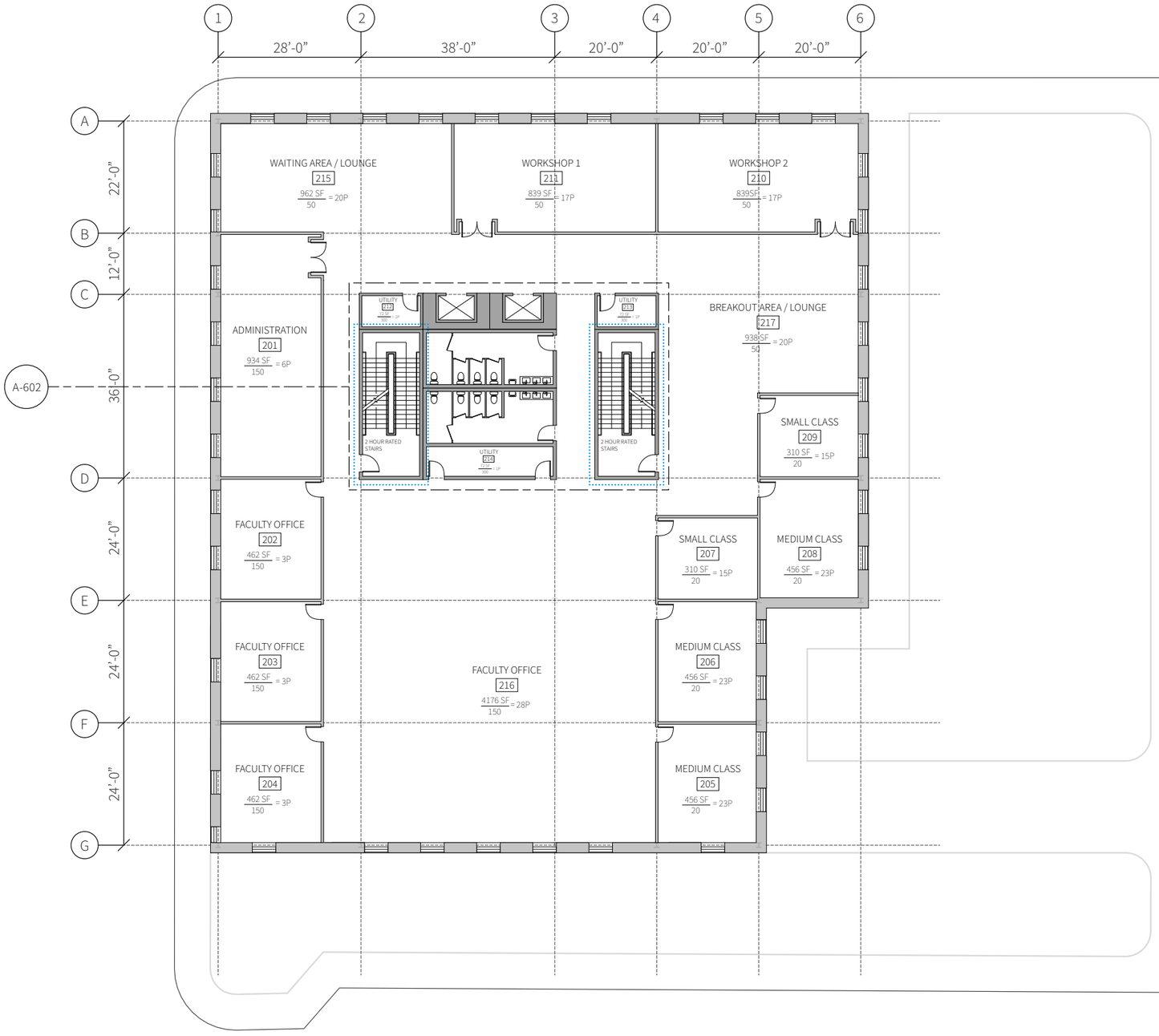
DWG: A-101
DATE: 9/20/2024
SCALE: 3/64" = 1'
DRWN BY: Samantha Salazar, Yuxuan (Gabi) Chen, Yucheng Che, Christine Baek

REVISION: 9/25/2024 Christine Baek, Yucheng Che
REVISION: 10/24/2024 Yuxuan (Gabi) Chen, Christine Baek
REVISION: 11/22/2024 Christine Baek, Samantha Salazar

DRWING: **FRIST FLOOR PLAN**

PROJECT:
HUB 59
408-406 SOUTH MAIN STREET,
PROVIDENCE, RHODE ISLAND 02903

Architect:
BUD & BLOSSOM
Samantha Salazar
Emily Lo
Yuxuan (Gabi) Chen
Yucheng Che
Christine Baek



A-102 SECOND FLOOR PLAN

SCALE 1:256

EXIT STAIR

OCCUPANT LOAD CALCULATIONS

ROOM #	PROGRAM	FUNCTION	AREA	OCCUPANT LOAD FACTOR	OCCUPANT LOAD
201	ADMINISTRATION	BUSINESS	934	150	6
202	FACULTY OFFICE 1	BUSINESS	462	150	3
203	FACULTY OFFICE 2	BUSINESS	462	150	3
204	FACULTY OFFICE 3	BUSINESS	462	150	3
216	FACULTY OFFICE 4	BUSINESS	4176		
205	MEDIUM CLASSROOM 1	CLASSROOM AREA (EDUCATIONAL)	456	20	23
206	MEDIUM CLASSROOM 2	CLASSROOM AREA (EDUCATIONAL)	456	20	23
207	SMALL CLASSROOM 1	CLASSROOM AREA (EDUCATIONAL)	310	20	15
208	MEDIUM CLASSROOM 3	CLASSROOM AREA (EDUCATIONAL)	456	20	23
209	SMALL CLASSROOM 2	CLASSROOM AREA (EDUCATIONAL)	310	20	15
217	BREAKOUT AREA / LOUNGE	READING ROOM	938	50	20
215	WAITING AREA / LOUNGE	READING ROOM	962	50	20
210	WORKSHOP 1	SHOPS AND OTHER VOCATIONAL ROOMS (EDUCATIONAL)	839	50	17
211	WORKSHOP 2	SHOPS AND OTHER VOCATIONAL ROOMS (EDUCATIONAL)	839	50	17
212	UTILITY ROOM 1	UTILITY & MISCELLANEOUS	70	300	1
213	UTILITY ROOM 2	UTILITY & MISCELLANEOUS	70	300	1
214	UTILITY ROOM 3	UTILITY & MISCELLANEOUS	144	300	1

PLUMBING FIXTURE CALCULATION

OCCUPANCY	LOAD/2	WC MALE	WC FEMALE	LAVATORY MALE	LAVATORY FEMALE	FOUNTAIN	SERVICE SINK
B	18.5	0.74	0.74	0.4625	0.4625	0.185	/
E	63.5	1.27	1.27	1.27	1.27	0.635	/
M	20	0.205	0.205	0.205	0.205	0.05125	/
TOTAL		2.05 = 3	2.05 = 3	1.76 = 2	1.76 = 2	0.84 = 1	1

DWG: A-102

DATE: 9/20/2024

SCALE: 3/64" = 1'

DRWN BY: Samantha Salazar, Yuxuan (Gabi) Chen, Yucheng Che, Christine Baek

REVISION: 9/25/2024 Christine Baek, Yucheng Che

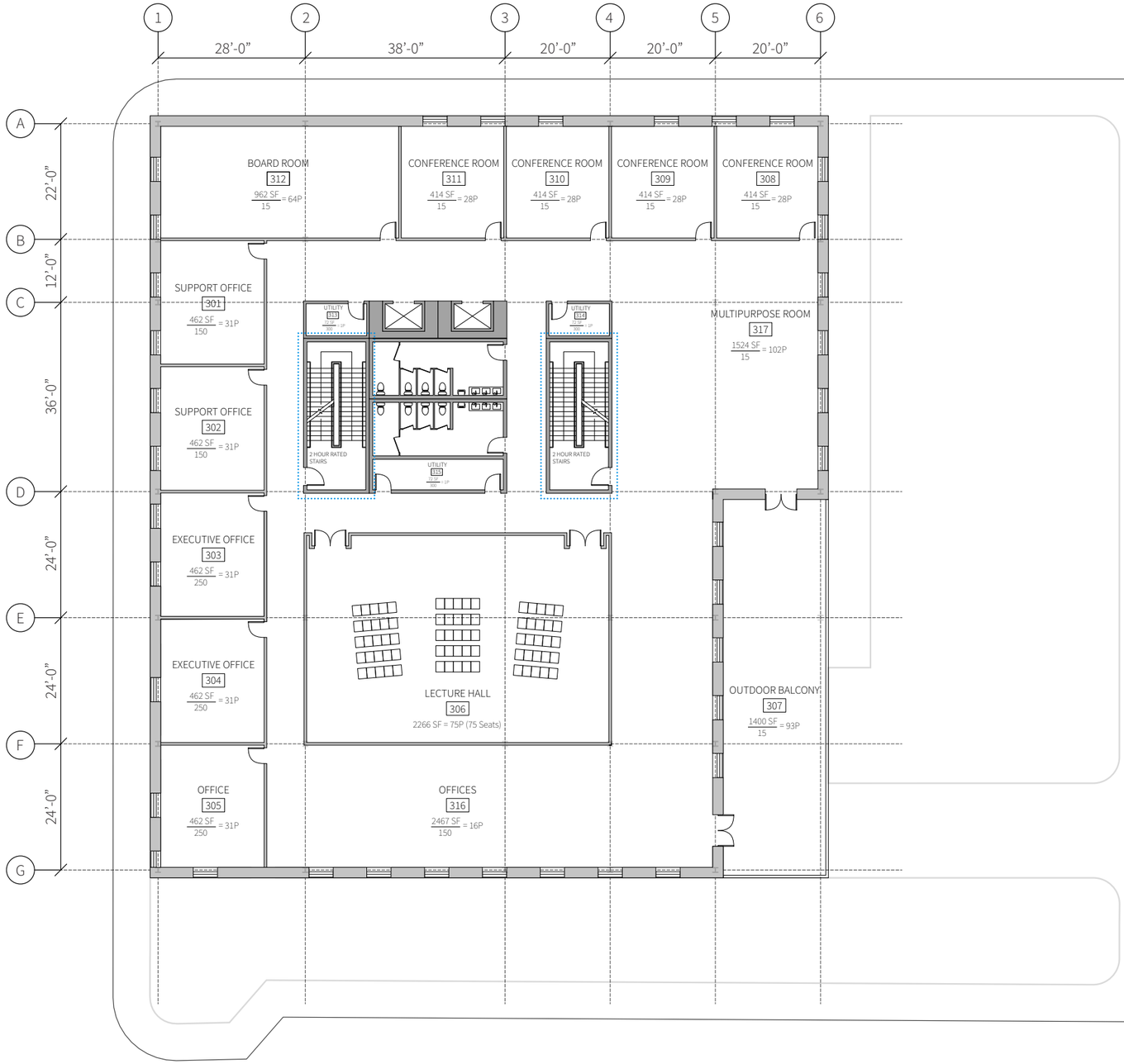
REVISION: 10/24/2024 Yuxuan (Gabi) Chen, Christine Baek

REVISION: 11/22/2024 Christine Baek, Samantha Salazar

DRWING: **SECOND FLOOR PLAN**

PROJECT: **HUB 59**
408-406 SOUTH MAIN STREET,
PROVIDENCE, RHODE ISLAND 02903

Architect: **BUD & BLOSSOM**
Samantha Salazar
Emily Lo
Yuxuan (Gabi) Chen
Yucheng Che
Christine Baek



A-103 THIRD FLOOR PLAN

SCALE 1:256

EXIT STAIR

OCCUPANT LOAD CALCULATIONS					
ROOM #	PROGRAM	FUNCTION	AREA	OCCUPANT LOAD FACTOR	OCCUPANT LOAD
306	LECTURE HALL	ASSEMBLY w/ FIXED SEATS (75 SEATS)	2266	N/A	75
307	OUTDOOR BALCONY	BUILDING OFFICIAL	1400	15	93
301	SUPPORT OFFICE 1	BUSINESS	462	150	31
302	SUPPORT OFFICE 2	BUSINESS	462	150	31
303	EXECUTIVE OFFICE 1	BUSINESS	462	150	31
304	EXECUTIVE OFFICE 2	BUSINESS	462	150	31
316	OFFICES	BUSINESS	2467	150	16
308	CONFERENCE ROOM 1	UNCONCENTRATED (ASSEMBLY w/ FIXED SEATS)	414	15	28
309	CONFERENCE ROOM 2	UNCONCENTRATED (ASSEMBLY w/ FIXED SEATS)	414	15	28
310	CONFERENCE ROOM 3	UNCONCENTRATED (ASSEMBLY w/ FIXED SEATS)	414	15	28
311	CONFERENCE ROOM 4	UNCONCENTRATED (ASSEMBLY w/ FIXED SEATS)	414	15	28
312	BOARD ROOM	UNCONCENTRATED (ASSEMBLY w/ FIXED SEATS)	962	15	64
317	MULTIPURPOSE ROOM	UNCONCENTRATED (ASSEMBLY w/ FIXED SEATS)	1524	15	102
313	UTILITY ROOM 1	UTILITY & MISCELLANEOUS	70	300	1
314	UTILITY ROOM 2	UTILITY & MISCELLANEOUS	70	300	1
315	UTILITY ROOM 3	UTILITY & MISCELLANEOUS	144	300	1

PLUMBING FIXTURE CALCULATION							
OCCUPANCY	LOAD/2	WC MALE	WC FEMALE	LAVATORY MALE	LAVATORY FEMALE	FOUNTAIN	SERVICE SINK
A-1. A-3	172	1.376	2.646	0.86	0.86	0.344	/
B	13.5	0.54	0.54	0.3375	0.3375	0.135	/
TOTAL		1.916 = 2	3.186 = 4	1.1975 = 2	1.1975 = 2	0.479 = 1	1

DWG: A-103

DATE: 9/20/2024

SCALE: 3/64" = 1'

DRWN BY: Samantha Salazar, Yuxuan (Gab) Chen, Yucheng Che, Christine Baek

REVISION: 9/25/2024 Christine Baek, Yucheng Che

REVISION: 10/24/2024 Yuxuan (Gab) Chen, Christine Baek

REVISION: 11/22/2024 Christine Baek, Samantha Salazar

DRWING: **THIRD FLOOR PLAN**

PROJECT: **HUB 59**
408-406 SOUTH MAIN STREET,
PROVIDENCE, RHODE ISLAND 02903

Architect: **BUD & BLOSSOM**
Samantha Salazar
Emily Lo
Yuxuan (Gab) Chen
Yucheng Che
Christine Baek

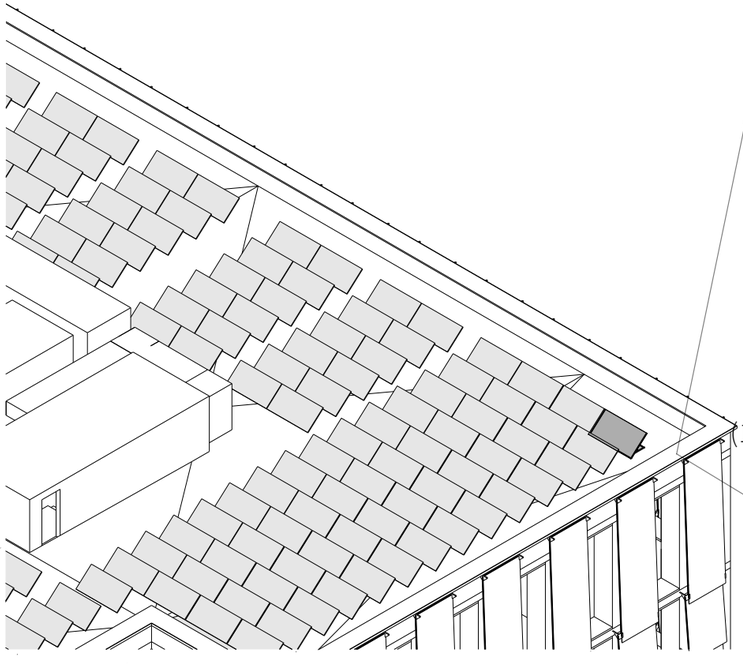
MAXEON CERTIFICATIONS

IEC / EN CERTIFICATIONS

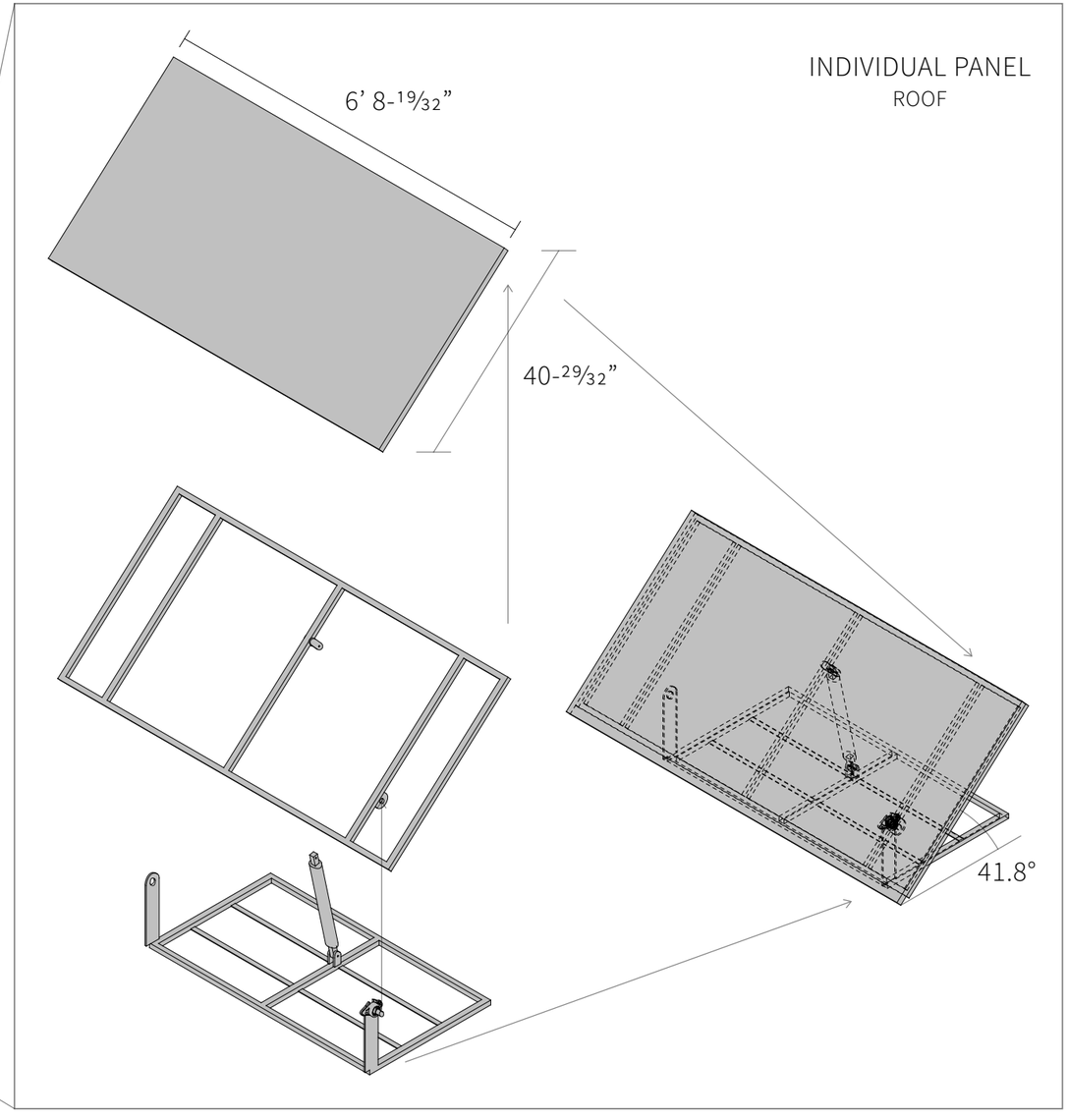
SunPower module products are certified by TÜV Rheinland to comply with IEC standards for photovoltaic design and safety (61215 ed.2 and 61730).

ISO CERTIFICATIONS

The Maxeon Corporation Quality Management System has been assessed and certified as meeting the requirements of ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 for the following scope: The design, manufacture, and delivery of high performance solar electric systems for residential, commercial, and utility-scale power plant customers.



X8
(1:24)



TYPOLOGY & ASSEMBLY

A-105 PHOTOVOLTAIC ARRAY
SCALE 1:192

DWG: A-105
DATE: 11/15/2024
SCALE: N/A
DRWN BY: Yucheng Che
REVISION: 11/20/2024 Yucheng Che
DRWING: PHOTOVOLTAIC ARRAY
PROJECT: HUB 59
408-406 SOUTH MAIN STREET,
PROVIDENCE, RHODE ISLAND 02903
Architect: BUD & BLOSSOM
Samantha Salazar
Emily Lo
Yuxuan (Gab) Chen
Yucheng Che
Christine Baek

TECTONIC MODEL OF BAY

Our building's facade combines brick and glazing, chosen for their aesthetic, contextual, and functional qualities. The use of brick pays homage to Providence's rich architectural history, where brick is a defining material. By juxtaposing this traditional element with modern glass glazing panels, the design creates a striking contrast that symbolizes a bridge between the past and a forward-thinking, sustainable future. This approach honors the historical context while embracing progress.

Beyond their visual appeal, both materials are well-suited to the northeastern climate, ensuring durability and performance. In the early stages of the design, we drew inspiration from the layered construction of traditional wigwam architecture, an integral part of the Narragansett Tribe's cultural heritage in Rhode Island. While our façade has since moved away from a direct typological reference, this concept served as a foundational influence, guiding the development of our panelized design.

DWG: A-701.1

DATE: 10/10/2024

SCALE: 1" = 1'

DRWN BY: Samantha Salazar, Emily Lo, Yucheng Che, Yuxuan (Gab) Chen, Christine Baek

REVISION: 11/20/2024 Samantha Salazar, Emily Lo

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A SEMBLANCE of ETERNITY

"A museum is, I suppose, a repository against time. Fragile objects need protection, but even without this need there is a **semblance of eternity**, a sense of permanence that is implied by a museum, and a removal from time's passage. Is it the enclosure, roofed or unroofed, that creates this impression?"

- Isamu Noguchi, The Isamu Noguchi Garden Museum

SUITCASE of SCRAP

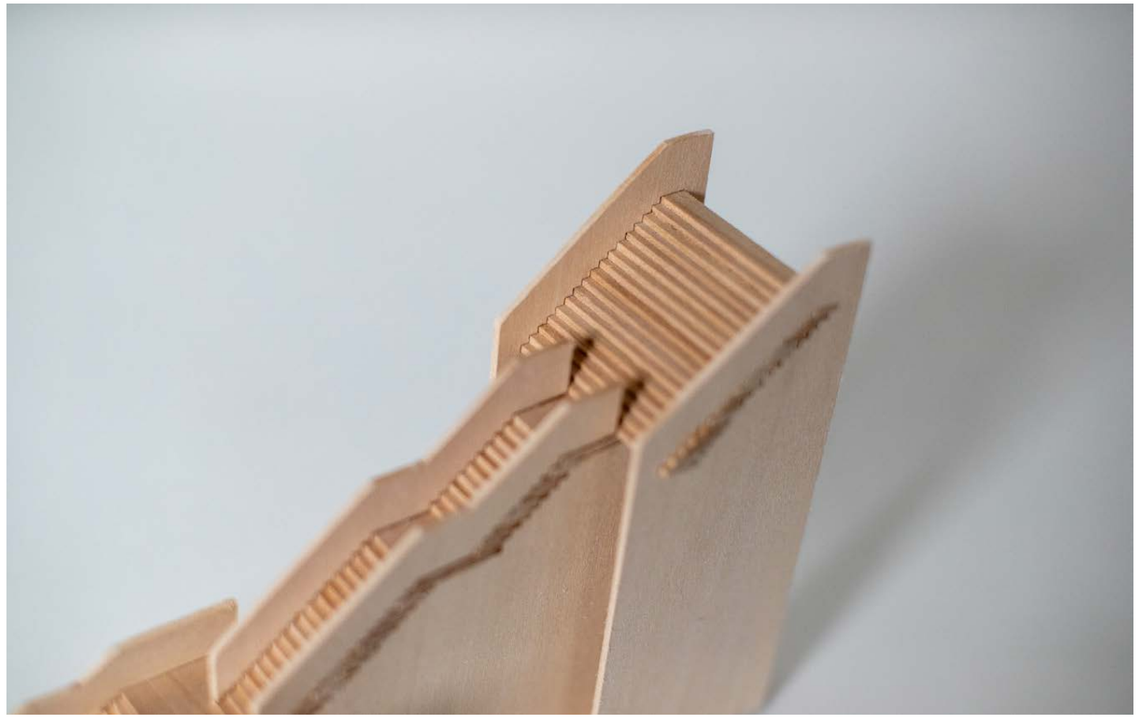
TERMINUS A QUO

Bits and pieces of detritus and leftovers overlooked.

"to make, to produce something into this world takes courage, something we so often take for granted."
-Jane Xu

The "waiting room" of usefulness, the slump of the worn sheer lining gives way for those strange misfit machined edges, intentional and otherwise-
a haphazard vessel of forgotten uselessnesses.

Absence • *Awkward* • *Suitcase-Slump* • *History* • *Significance*



THE ICONIC STAIRCASE

Rhode Island School of Design

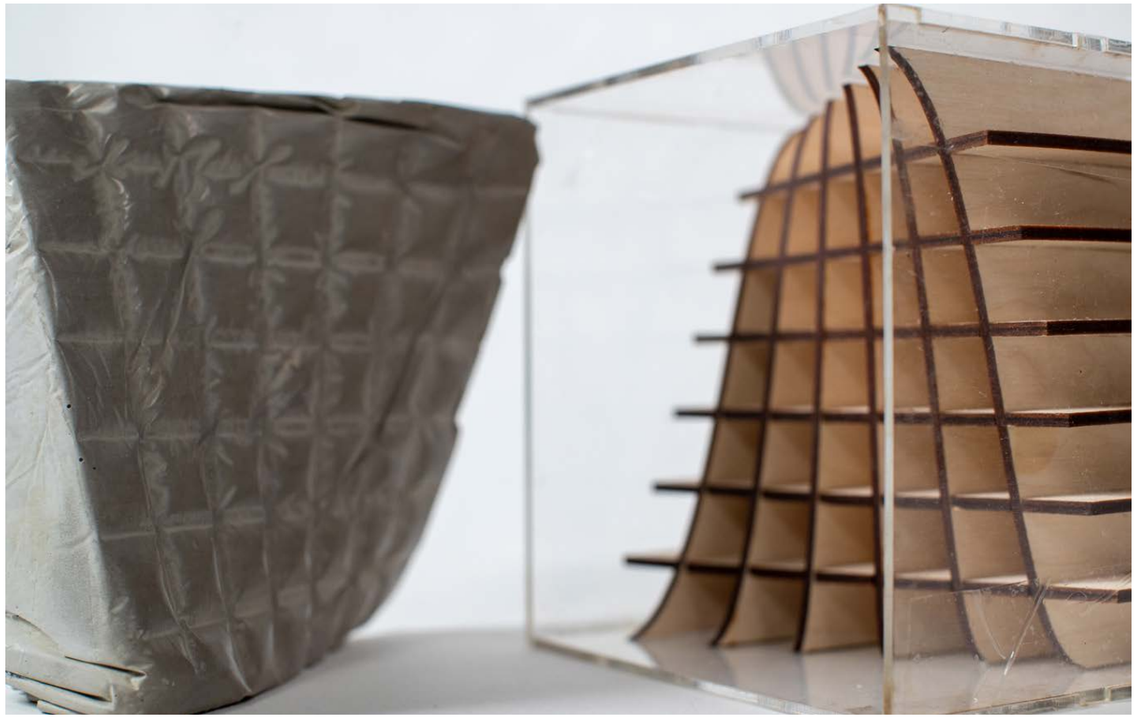
In the breathlessness that comes from walking up that final flight of stairs

In the hours spent pouring over books in the little nooks with the hot spotlight over your head

In the archaic facades that lives in history and our imaginations

In the stories we keep retelling because when we are in it, we complain and hate what it is for what it is. But when we are without it, it calls to us because it feels like a part of us is gone.

Navigation • *Fallacies-of-representation* • *Reproduction* • *Objectification* • *Leftover*



PART & COUNTERPART

CAST & MOLD

Consider for a moment,
the smallest gap
a miniscule misalignment
where membrane was
is now concrete

Correspondence • *Tension* • *Capture* • *Liquid-to-Solid* • *Fallacies*

NATURE'S SCAFFOLDING

THE SISTERS OF ORDER & CHAOS

Over time, fragments of aggregate fall away from the whole.

Error • *Control* • *Embrace* • *Support* • *Enhancement*

CAPTURE the ROCK

Part 1:

INSTRUMENTS OF DOCUMENTATION

... And through it all, the tools and innovations are the gap fillers (the cement between a misfit). The moments in between- the drivers and the consequences of our obsession to document...

It's about obsession. About a ceaseless and tireless series of moments that yields innovation- to bring into this world something that is not existing already because it needs to be here.

It's about documentation. Recording moments, the tangible- like the rock and its weathering, and intangible- stepping back and admiring your work for a second after you finish before moving on.

CAPTURE the ROCK

Part 2:

PART & COUNTERPART

Concrete, 1 part water, 1 part portland cement, 1 part coarse aggregate, 1 part fine aggregate.

yucheng

On the scale of an effective museum, we sense an order, a control, we trust that the walls are present precisely because they need to be. This is further emphasized by the successful integration of “change”. I say successful because oftentimes dilapidation and neglect of intended uses aggregates over time and culminates in a patchwork of designer intention and user interface.

For example, a designer designs a rotating wall for a museum because he trusts that it will be used, maintained, and conclusively, worth it to every last detail.

In the installation of a piece of art, we understand the implications of atmosphere, and we trust that every detail, although not always explicitly stated, matters- for if some things are out of place, the world breaks down dramatically.

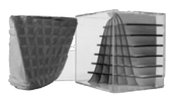
“A museum is, I suppose, a repository against time. Fragile objects need protection, but even without this need there is a semblance of eternity, a sense of permanence that is implied by a museum, and a removal from time’s passage. Is it the enclosure, roofed or unroofed, that creates this impression?”

Isamu Noguchi, The Isamu Noguchi Garden Museum

museum

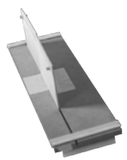
Scrap Slump
001
Yucheng Che
Cherry. Basswood. Suitcase

Iconic Staircase
002
Yucheng Che
Basswood. Cherry.



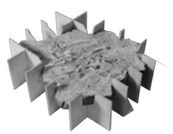
Part and Counterpart
003
Yucheng Che
Concrete. Plywood. Acrylic.

Nature’s Embrace
004
Yucheng Che
Cherrywood. Concrete. Plywood.



Capture the Rock 1: Instruments of Documentation [Easel]
005
Yucheng Che
MDF. Masking Tape. Plywood. Rubber Band.

Capture the Rock 1: Instruments of Documentation [Scribe]
006
Yucheng Che
Basswood. Cherry. Pencil.



Capture the Rock 2: Part and Counterpart
007
Yucheng Che
Plywood. Concrete

Capture the Rock 3: One to One to One to One
008
Yucheng Che
MDF. Concrete. Filament. Stone. Aluminum.

Capture the Rock 5: Documentarian
009
Yucheng Che
Bristol paper. Print.